

Recovering System Using a USB Drive

When your device fails to start due to an unexpected error, you may boot it from a USB drive.

To do this, please follow the steps below:

Required:

1. A USB 2.0 Drive (256MB+)
2. Console Cable (RJ45 or DB9 – depends on device)
3. A Windows PC with RS232 port (if not available , you may use a USB to RS232 cable)

Step 1. Go to www.nusoft.com.tw and download the **System Recovery Program**. (Click **Downloads > Technical Documents** and then select **System Recovery** from the **Model** drop-down list.)

Website:

http://download.nusoft.com.tw/tw_download/technical_document/USB/IMG.USB100.0.256M.reset

Step 2. Download the firmware by clicking **Downloads > Firmware Updates** and then selecting your model from the **Model** drop-down list.

Caution: Please select the model that matches your device in case any system error occurs.

Step 3. Go to <http://www.chrysocome.net/dd>. Download the dd program for Windows and uncompress it. (**Figure 1-1**)

Downloads for dd family

Program	Version	Content	Format	Platform	Download
dd	0.6beta3	Source	.zip	Delphi	dd-0.6beta3.src.zip
dd	0.6beta3	Binary	.zip	Windows	dd-0.6beta3.zip
dd	0.6beta1	Source	.zip	Delphi	dd-0.6beta1.src.zip
dd	0.5	Binary	.zip	Windows	dd-0.5.zip
dd	0.4beta4	Binary	.zip	Windows	dd-0.4beta4.zip
dd	0.4beta4	Source	.zip	Delphi	dd-0.4beta4.src.zip
Installation Instructions					

Figure 1-1 Downloading the dd Program for Windows

Step 4. Place all downloads in the same storage location. (The downloads are placed in C: drive in this example) (**Figure 1-2**)

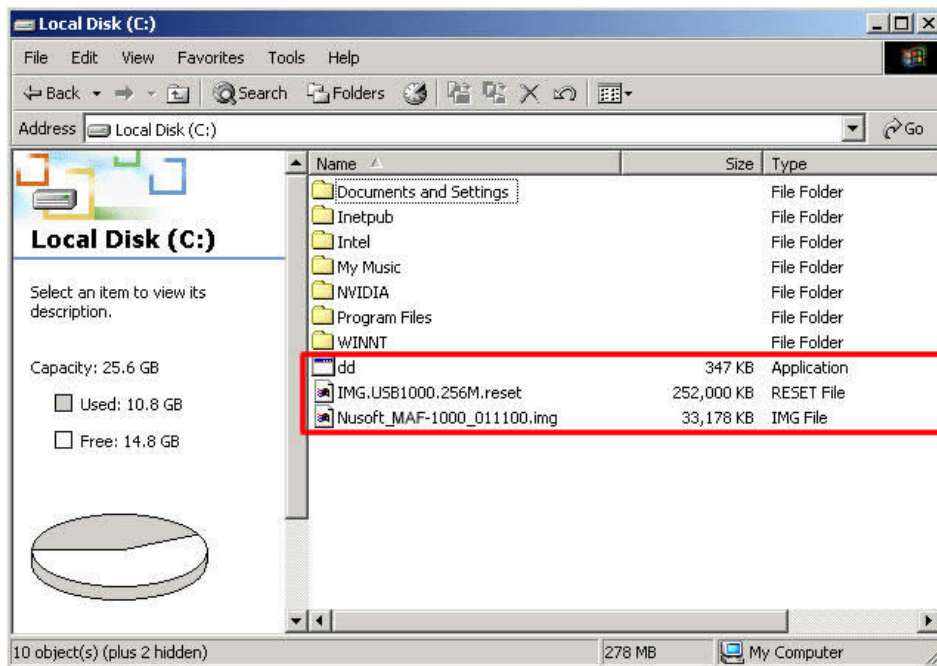


Figure 1-2 Placing All the Downloads in the Same Location

Step 5. Open the **Command Prompt** window (go to **Start > Programs > Accessories > Command Prompt**). Type **cd** and press **Enter** to switch to the root directory of the hard drive (C:). (**Figure 1-3, 1-4**)

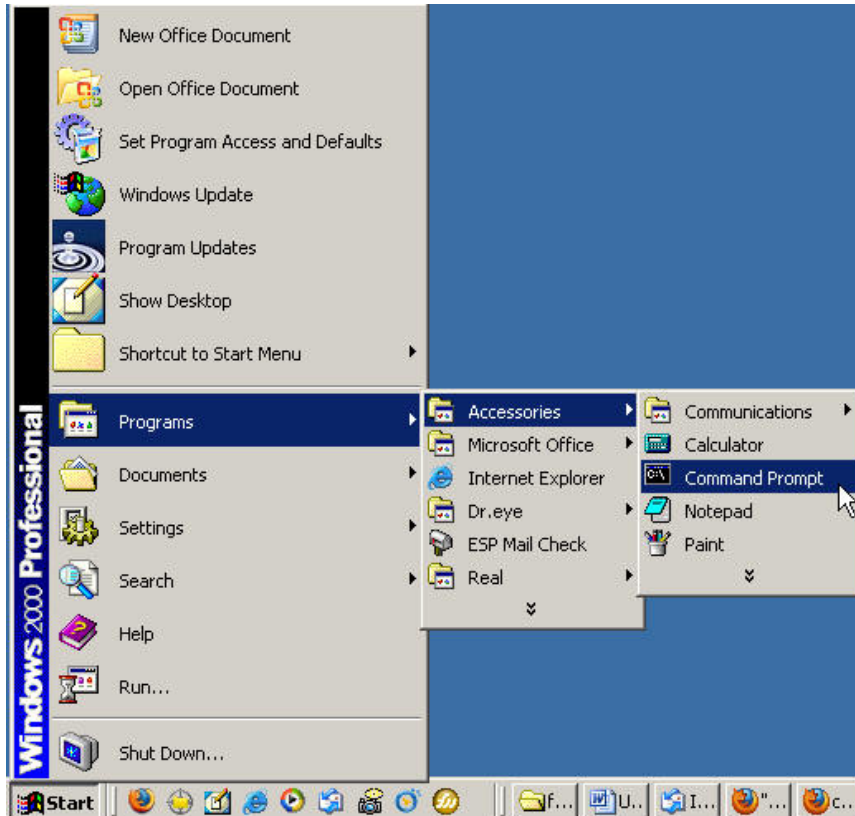


Figure 1-3 Opening the Command Prompt Window

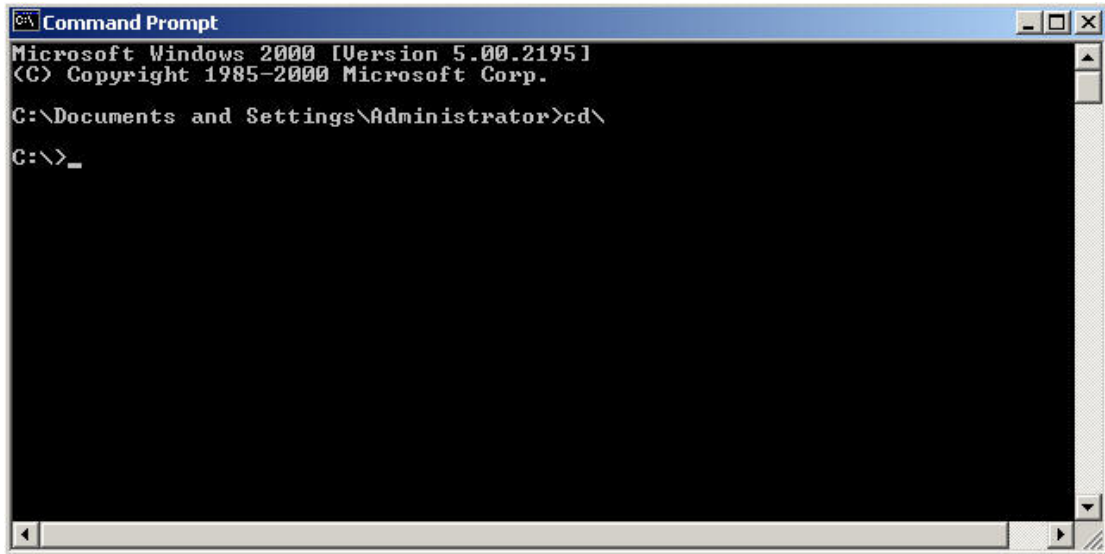
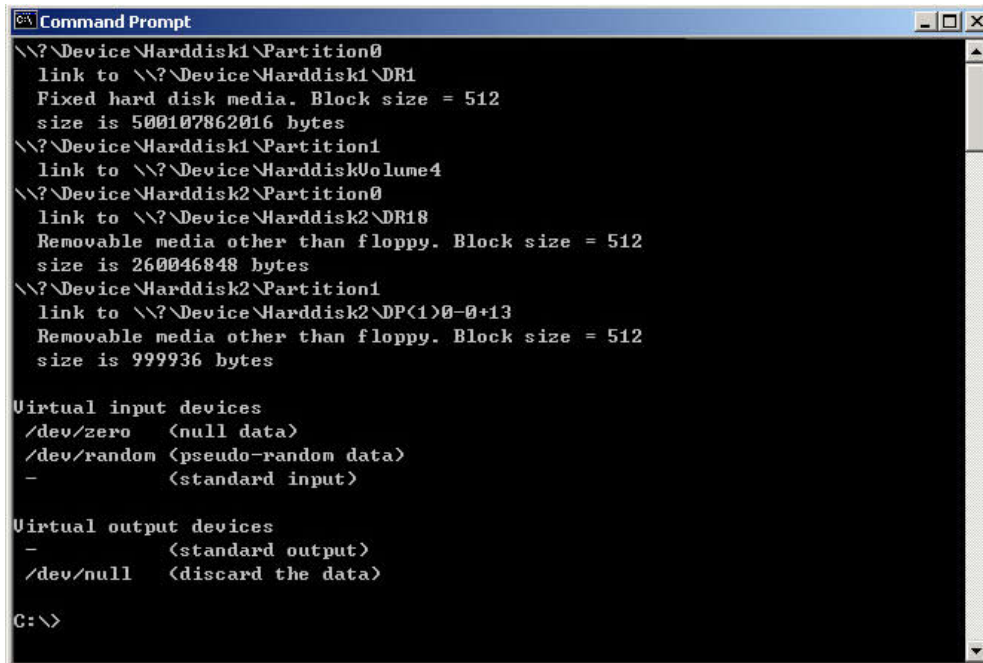


Figure 1-4 Switching to the Root Directory of the Hard Drive (C:)

Step 6. Plug the USB drive into your computer and then type in **dd --list** in the **Command Prompt** window. The command will list out all the available storage media. (Note: There is a space between “**dd**” and “**--**”) (**Figure 1-5**)



```
C:\> dd --list

\\?\Device\Harddisk1\Partition0
  link to \\?\Device\Harddisk1\DR1
  Fixed hard disk media. Block size = 512
  size is 500107862016 bytes
\\?\Device\Harddisk1\Partition1
  link to \\?\Device\HarddiskVolume4
\\?\Device\Harddisk2\Partition0
  link to \\?\Device\Harddisk2\DR18
  Removable media other than floppy. Block size = 512
  size is 260046848 bytes
\\?\Device\Harddisk2\Partition1
  link to \\?\Device\Harddisk2\DP(1)0-0+13
  Removable media other than floppy. Block size = 512
  size is 999936 bytes

Virtual input devices
/dev/zero  <null data>
/dev/random <pseudo-random data>
-         <standard input>

Virtual output devices
-         <standard output>
/dev/null  <discard the data>

C:\>
```

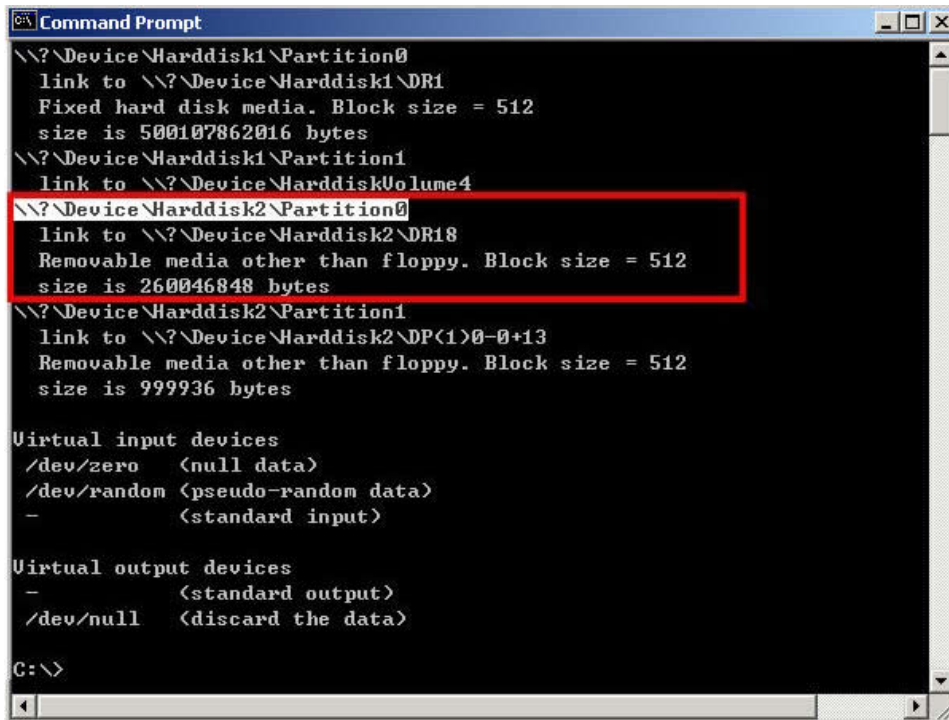
Figure 1-5 A List of All Storage Media



Important:

1. If you have more than one USB drive inserted into your PC, it is suggested to remove the others to avoid confusion.
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Step 7. Copy the location of the USB drive in the **Command Prompt** window.
(You may find the location by the keywords “Removable media other than floppy”) (**Figure 1-6**)



```
Command Prompt
\\?\Device\Harddisk1\Partition0
link to \\?\Device\Harddisk1\DR1
Fixed hard disk media. Block size = 512
size is 500107862016 bytes
\\?\Device\Harddisk1\Partition1
link to \\?\Device\HarddiskVolume4
\\?\Device\Harddisk2\Partition0
link to \\?\Device\Harddisk2\DR18
Removable media other than floppy. Block size = 512
size is 260046848 bytes
\\?\Device\Harddisk2\Partition1
link to \\?\Device\Harddisk2\DP(1)0-0+13
Removable media other than floppy. Block size = 512
size is 999936 bytes

Virtual input devices
/dev/zero (null data)
/dev/random (pseudo-random data)
- (standard input)

Virtual output devices
- (standard output)
/dev/null (discard the data)

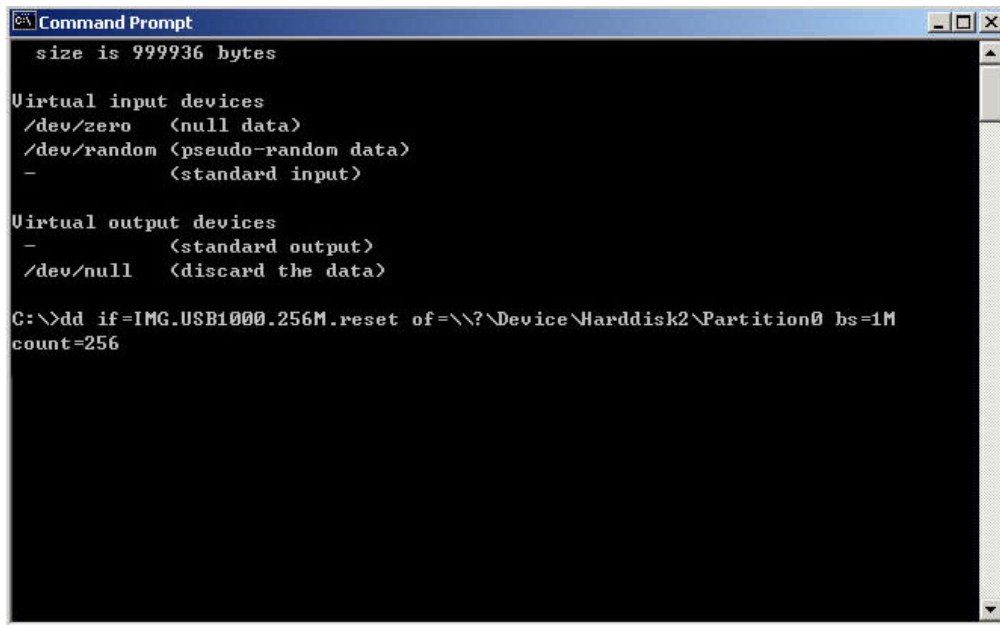
C:\>
```

Figure 1-6 Copying the Location of the USB Drive

 Note :

1. In figure 1-6, the texts in the red frame are the information of the USB drive. The highlighted string is the location of it.
-

Step 8. Type in : dd if=IMG.USB1000.256M.reset
of=\\?\Device\Harddisk2\Partition0 bs=1M count=256 (Figure1-7)



```
Command Prompt
size is 999936 bytes

Virtual input devices
/dev/zero  <null data>
/dev/random <pseudo-random data>
-         <standard input>

Virtual output devices
-         <standard output>
/dev/null  <discard the data>

C:\>dd if=IMG.USB1000.256M.reset of=\\?\Device\Harddisk2\Partition0 bs=1M
count=256
```

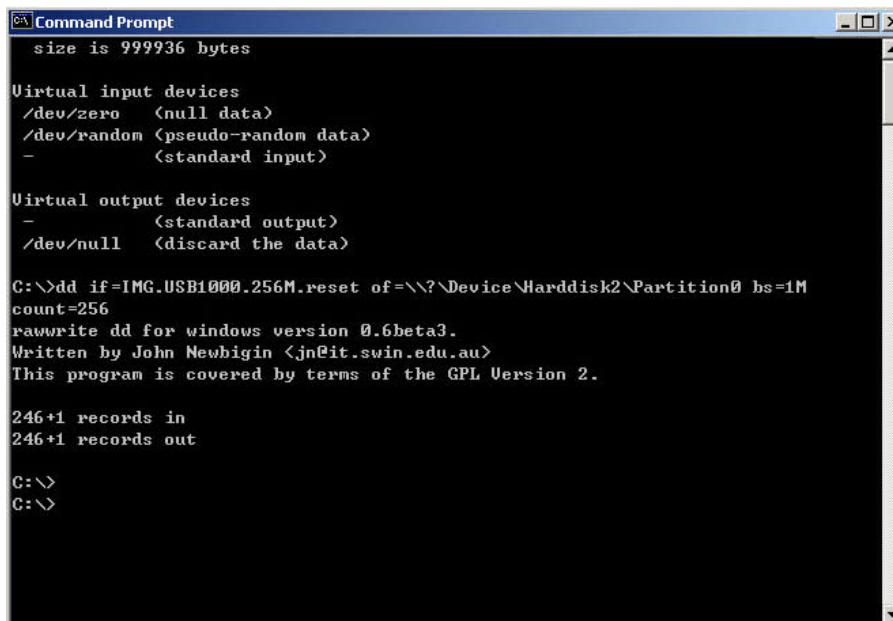
Figure 1-7 Entering the Command in the Window



Important :

1. The location of USB drive “**Device\Harddisk2\Partition0**” may vary from case to case. Please apply the location you get from **Step 7**.
 2. It is suggested to back up your data stored on the USB drive because this step will erase everything on it.
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Step 9. Press **Enter** and wait a few minutes for the file to be written onto your USB drive. After that, remove the USB drive from your PC. ([Figure 1-8](#))



```
Command Prompt
size is 999936 bytes

Virtual input devices
/dev/zero <null data>
/dev/random <pseudo-random data>
- <standard input>

Virtual output devices
- <standard output>
/dev/null <discard the data>

C:\>dd if=IMG.USB1000.256M.reset of=\\.\Device\Harddisk2\Partition0 bs=1M
count=256
rawwrite dd for windows version 0.6beta3.
Written by John Newbigin <jn@it.swin.edu.au>
This program is covered by terms of the GPL Version 2.

246+1 records in
246+1 records out

C:\>
C:\>
```

Figure 1-8 Writing the File onto the USB Drive

Step 10. Power off the device and then plug the USB drive into it. Next, connect the device to the PC via the console cable and then run HyperTerminal on the PC to prepare a console connection.

(Note: For further information on establishing a console connection, you may refer to Nusoft Newsletter [No.34.](#)) ([Figure 1-9](#))



Figure 1-9 Plugging the USB Drive and the Console Cable into the Device

Step 11. Power on the device and wait for a few minutes. And then, the HyperTerminal window shows "USB login:". (**Figure 1-10**)

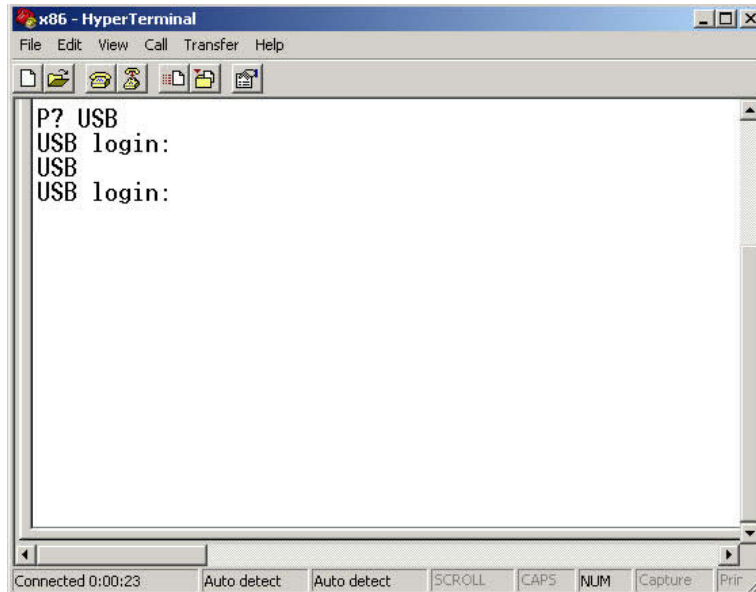


Figure 1-10 Booting from the USB Drive

Step 12. Configure your PC to be on the same subnet as the device (i.e.,192.168.1.X) and then plug the network cable into the device (see **Important note below**). (**Figure 1-11, 1-12**)

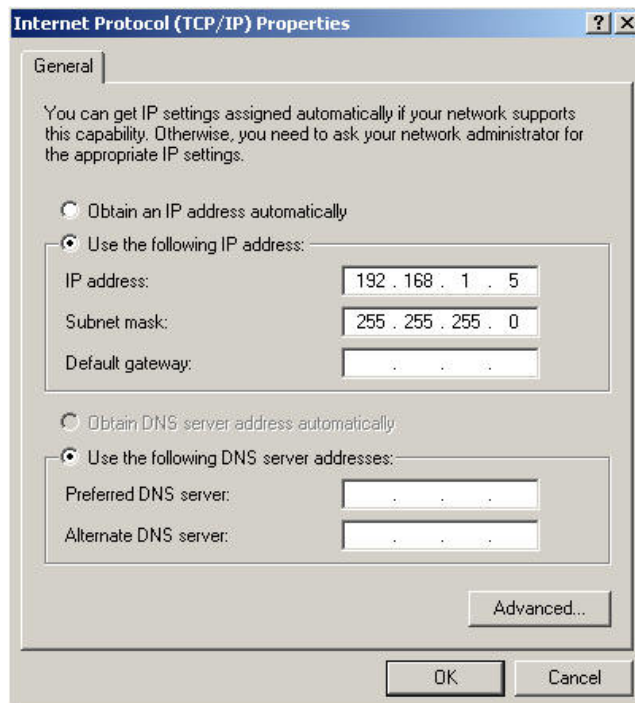


Figure 1-11 Configuring Your PC to be on the Same Subnet as the Device



Figure 1-12 Plugging the Network Cable into the Device



Important :

1. Please choose the port according to your device:

- For UTM & MHG series :
 - ◆ The fourth port from the left.
 - For IDR series :
 - ◆ IDR-950, IDR-1000: The fourth port from the left.
 - ◆ IDR-1500, IDR-2000: The third port from the left.
 - For MLS series :
 - ◆ MLS-950, MLS-1000: The fourth port from the left.
 - ◆ MLS-1500, MLS-2000: The third port from the left.
 - For MAF series :
 - ◆ MAF-1000: The fourth port from the left.
 - ◆ MAF-1500: The third port from the left.
-

Step 13. Open a browser and type <http://192.168.1.1>. After that, click the **Browse** button to locate the firmware in **Step 2** and then click **OK**. (**Figure 1-13**)

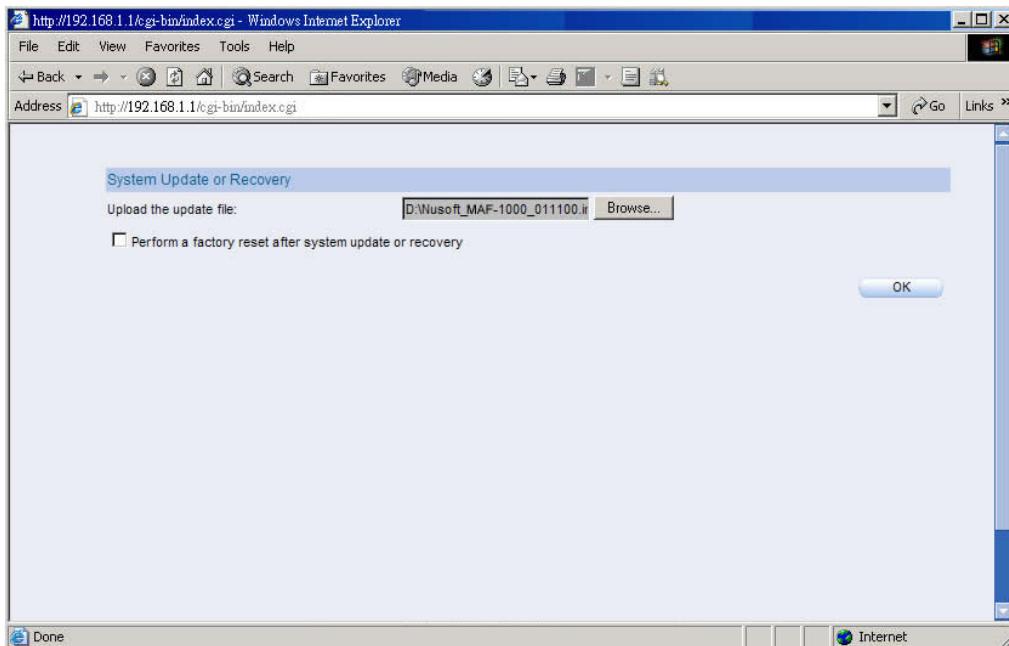


Figure 1-13 Updating the Firmware



Important:

1. Please choose the firmware that matches your device in case any system error occurs.
 2. You may tick **Perform a factory reset after system update or recovery** to reset to factory settings if needed.
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Step 14. After system update, remove the USB drive and reboot the device.

(Figure 1-14)

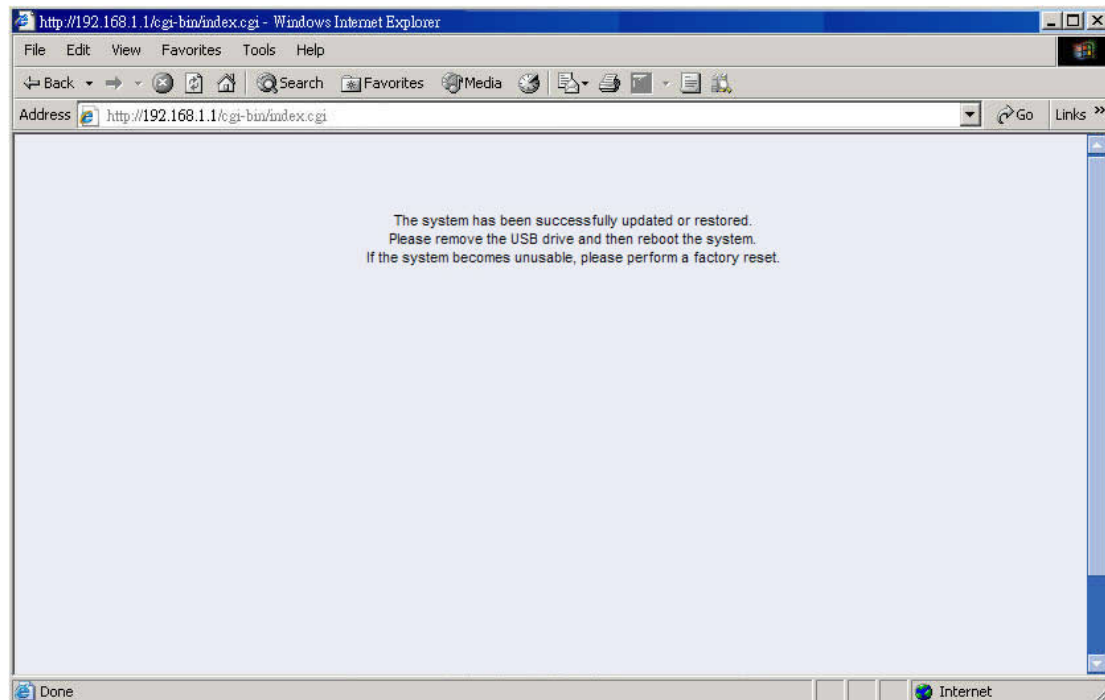


Figure 1-14 Firmware Updated Successfully

Step 15. After rebooting,

- If a factory reset has not been performed, you need to plug the network cable into the port which you connected to originally.
- If a factory reset has been performed, you need to plug the network cable into the first port from the left.